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Joint ECA/UNEP/ADB Curriculum Development
Training Workshop on the Incorporation of
Environmental Components into the Training
Programmes of ECA sponsored Institutions

African Development Bank (ADB)
Abidjan, Ivory Coast
18-23 November 1985

DRAFT
(working document)

AN INTRODUCTORY CURRICULUM FOR INCORPORATING ENVIRONMENTAL COMPONENTS INTO THE TRAINING PROGRAMMES OF ECA-SPONSORED INSTITUTIONS

PRESENTED AT THE
JOINT ECA/UNEP/ADB CURRICULUM DEVELOPMENT TRAINING WORKSHOP
ON THE INCORPORATION OF ENVIRONMENTAL COMPONENTS INTO
THE TRAINING PROGRAMMES OF ECA-SPONSORED INSTITUTIONS
AFRICAN DEVELOPMENT BANK (ADB)
ABIDJAN, IVORY COAST

18-23 NOVEMBER 1985

UNECA STAFF DOCUMENT

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I. INTRODUCTION

(i) Background

1. In recognition of the importance of manpower development for the management and protection of the African environment, the United Nations Environment Programme's (UNEP) Governing Council has passed several decisions relating to environmental education and training in the African region. UNEP/GC.9/12 decision of May 1981 identified environmental education and training, and technical assistance as a priority for development. 1/ UNEP/GC.9/20/A of 26 May 1981, GC.9/20/D of May 26, 1981 and GC.9/21 also of May 26, 1981, all of these decisions made particular references to the importance of environmental education and training in Africa. Decision GC.9/20/D requested the Executive Director of UNEP to explore jointly with UNECA the possibilities of establishing regional institutions for environmental training and education within the African region and to seek ways and means of providing support for national institutions for environmental protection and management in Africa. Again in May 1982, UNEP Governing Council 2/ at its tenth session requested the Executive Director to enhance the role of the Environment Programme in promoting, co-ordinating and catalysing activities in the field of environmental education and training in the African region, including public awareness. The decision also requested UNEP Executive Director in co-operation with relevant international organizations, to continue rendering support to environmental education and training programmes in the African region with a view to:

(a) Advising on the incorporation of environmental components into curricula of all institutions of learning at all levels of education and into adult education;

(b) identify, promote and strengthen national, regional and subregional institutions and programmes offering environmental education and training in the African region.

2. Pursuant to UNEP decision GC.9/20/D and directives regarding environmental education and training in Africa, a UNEP/ECA joint mission was conducted from April 19 to 30, 1982. The terms of reference of the joint mission were to consider:

(a) the status of environmental training and education in African universities;

(b) the status of national institutions responsible for environmental protection and management;

(c) to explore the possibilities of strengthening environmental training and education and national institutions; and

(d) to explore possibilities of establishing a Regional Institution for Environmental Training and Education.

1/ UNEP Governing Council ninth session draft report, UNEP.GC.9/15, June 1981.

2/ UNEP/GC.10/14 - Report of the Governing Council at its ninth session, 15 June 1982.

3. The mission was limited to the period 19 to 30 April 1982 to consult with the following governments and organizations·

(a) Nigerian Federal Ministry of Housing and Environment in Lagos;

(b) The Association of African Universities (AAU) in Accra, Ghana;

(c) The Senegal Minister de l'urbanisme, de l'habitat et de l'environnement as well as;

(d) The Environment and Development Action Institute (ENDA) in Dakar;

(e) The Kenya Ministry of Environment and Natural Resources in Nairobi including the·

(f) National Environmental Secretariat and the Permanent Mission of Kenya to UNEP.

Contacts were also established with the African Network of Scientific and Technical Institute (ANSTI) in Nairobi and the African Curriculum Organization based in Ibadan.

4. Regarding the state of the art of environmental education and training at existing African Universities, the mission observed that there are a cross section of environmentally-sound degree programmes at most of the existing universities in Africa. For example, the University of Assiut, Assiut, Egypt has a degree programme comprising of public health, geology, botany and industrial pharmacy which are all environmentally-related. As a whole, most African Universities do cover a study of environmental concerns in the various traditional academic departments such as, engineering, medicine, agriculture, geology, botany, zoology, geography. The mission also observed that what is lacking in the African region is an interdisciplinary environmental education and training programmes which would incorporate the various related academic disciplines.

5. Also at the tenth session of UNEP Governing Council held in Nairobi 20-31 May 1982, decision 10/25 (A) on environmental education and training in Africa was passed. 3/ The decision advised on the incorporation of environmental component into the curricula of all institutions of learning at all level of education and into adult education and to identify and promote national, regional and subregional institutions and programme offering environmental education and training in the Africa Region. 4/

6. This also requested the Executive Director of UNEP to convene a meeting of experts from governments and the Scientific Community within the Region to develop a programme of action for environmental education and training in the Africa Region. The meeting of Experts from Government and the Scientific Community to Develop a Programme of Action for Environmental Education and Training in the African Region was held in Nairobi, Kenya, 12-15 April 1983.

3/ UNEP Governing Council Tenth Session Report of the Governing Council. UNEP/GC.10/14, 15 June 1982.

4/ Ibid.

7. At this meeting, the Environment Co-ordination Office at UNECA presented document E/ECA/ENV/8 entitled "Incorporation of Environmental Components into Training Programmes of ECA-sponsored Institutions". This document stressed that one of the most appropriate methods to promote environmental education and training aid and hence, create environmental awareness was to utilize existing ECA-sponsored institutions as a delivery system.

8. As a follow-up to these activities regarding environmental education and training in Africa, the United Nations Economic Commission for Africa (UNECA) Environment Section developed a project proposal "Introduction environmental components into the training programme of ECA-sponsored institutions". The objective of the project was to implement ECA's Plan of Action for environmental education and training in Africa. This project proposal was sent to UNEP for funding to be implemented jointly by ECA and UNEP. The project was funded by UNEP on 30 October 1984.

9. At their Third Conference of Chief Executives of ECA-sponsored Regional and Subregional Institutions, Addis Ababa, 29 November - December 1982, the following eleven ECA-sponsored institutions expressed their willingness to incorporate environmental dimensions into their existing training programmes. Therefore, they are the participating agencies that will be incorporating environmental components into their training activities:

(1) African Institute for Higher Technical Training and Research (AIHTTR), Nairobi, Kenya;

(2) Regional Centre for Services in Surveying, Mapping and Remote Sensing (RCSSMRS), Nairobi, Kenya;

(3) African Regional Organization for Standardization (ARSO), Nairobi, Kenya;

(4) African Regional Centre for Engineering Design and Manufacturing (ARCEDEM), Ibadan, Nigeria;

(5) Regional Centre for Training in Aerial Surveys (RECTAS), Ile-Ife, Nigeria;

(6) Institute pour la formation et de recherche demographique (IFORD), Yaounde, Cameroon;

(7) The African Development Bank (ADB), Abidjan, Ivory Coast;

(8) Institute for Economic Development and Planning (IDEP), Dakar, Senegal;

(9) African Regional Centre for Technology (ARCT), Dakar, Senegal;

(10) African Remote Sensing Centre (ARSC), Ouagadougou, Burkina Faso;

(11) African Centre for Applied Research and Training in Social Development (ACARTSOD), Tripoli, Libya.

10. For the purpose of implementation, the joint UNEP/ECA project is divided into two main phases: Phase I consists of a mission to collect data on the training courses of interested ECA-sponsored institutions, the development of a comprehensive introductory curriculum, and this training workshop for incorporating environmental components into the training programmes of the eleven mentioned ECA-sponsored institutions. Whereas, Phase II includes the publication of the curriculum and the actual incorporation of environmental dimensions into the training programmes of the participating institutions.

(ii) General objectives of the Curriculum

11. The Curriculum has a long-term objectives and an immediate objectives.

- The long-term objectives:

  - To develop a citizenry that has a basic understanding of humanity's relation and interaction with the total environment, a citizenry that understands the need for maintaining ecological balance, a public which is aware, concerned and motivated to work on solutions to environmental problems;

  - To provide the motivation and training that enable citizen to acquire and spread the knowledge and skills that will help society to solve interrelated environmental problems and prevent their recurrence;

  - To make the public aware that every citizen is on environmental decision-maker, on one scale or another;

  - To provide accurate up-to-date information, concepts, principles and values about environmental management in Africa, so that each country and the region can make the best possible decisions regarding the environment and its protection; and

  - To promote the goals, objectives and principles of environmental education and training adopted at the Tbilisi Intergovernmental Conference.

- The immediate objectives

  - To expose to officials and teaching staff of ECA-sponsored institutions the need to introduce environmental dimension into their present training activities;

  - To provide an interdisciplinary environmental core curriculum to be adopted to the specific sector of each of the ECA-sponsored participating institutions;

  - To produce an enlightened class of policy and decision makers in the African region and other officials involved in developmental activities which might have environmental impact with the necessary environmental skills to make appropriate coast-effective environmental protection decisions;

- To generate the skills and techniques necessary for the development of curricula in environmental education and training;

- To discuss, through the workshop and discussion groups the development of strategies and guidelines for incorporating environmental dimension into training programmes of existing ECA-sponsored institutions;

- To provide ECA-sponsored institutions with an introductory curriculum for incorporating environmental dimension into their training programmes.

12. The workshop to develop this introductory curriculum for incorporating environmental components into the training programmes of ECA-sponsored institutions was held at the African Development Bank (ADB), Abidjan, Ivory Coast, 18-23 November 1985.

II. MAJOR INSTRUCTIONAL COMPONENTS OF THE CORE CURRICULUM

13. The Core Curriculum is composed of four major instructional units as follows:

(i) Environmental management for development (an interdisciplinary syllabus);

(ii) Environmental assessment and standardization;

(iii) Drought, Desertification and their social, economic and environmental implications;

(iv) Environmental Health and Sanitation.

(i) Environmental management for development (an interdisciplinary syllabus)

(a) Objectives:

14. The immediate objective of the unit: - A prevading aspect of environmental issues is that they are dominated by interlinkages, not only from an ecological point of view, but also in a more general sense. In particular, the parameters should involve an interdisciplinary approach. Emphasing, chemical, biological, physical, social, political, ecoromic and management. Therefore, the general objective of this unit is to emphasis the economic and management aspects of the environmental issues. At the end of this unit, the participants (students) should be able to explain:

- the basic of management;
- principles of motivation;
- effective communication within organizations;
- the emergence of management thoughts.

(b) Scope of syllabus

15. The following are the scope of the unit:

- Influence of behaviourial science on management concept;
- Basic functions of administration which are usually referred to as the five managerial functions;
- Satisfaction of basic needs and poverty erradication;
- Economic principles for management;
- Conservation strategies for natural resources and wildlife, soils, water and energy;

- Environmental aspects of human settlements planning, urbanisation and population migration;
- Public policy issues and environmental analysis:
- Public administration and health considerations;
- Environmental considerations in industrialization, transportation and tourism;
- Developmental economics;
- Principles of Environmental Impact Assessment procedure (EIA);
- Basic principles of ecology;
- Environmental dimensions for development planning;
- Infrastructure for environmental management and monitoring in Africa;
- Existing environmental laws, legislations and enforcement policies;
- Environmental information data collection and processing;
- Governmental structures for environmental management;
- Sociological planning and political aspects;
- Planning for environmental protection: advantages/disadvantages.

(c) Duration of course:

16. Depending on the resources of the Centre and its sectoral concerns, the above syllabus may be considered for a 4-5 week environmental lectures for raising environmental consciousness for regular participants at training courses of ECA-sponsored institutions.

(ii) Environmental assessment and standardization

(a) Objectives:

17. The immediate objective of this unit is to provide scientific knowledge and concerns regarding environmentally safe minimum standard as an integral part of the instructions given at all ECA-sponsored participating institutions.

(b) Scope of syllabus:

18. By the end of a six-week course, the students (participants) should be able to explain and demonstrate a sense of awareness regarding the following themes within this unit:

- Safe minimum standards for environmental protection;
- Environmental safeguards;
- Analysis of tradeoffs;

- Economic analysis of environmental projection;
- Water quality evaluation and control
- Air quality control, and monitoring of gaseous emissions;
- Measures to prevent ecological degradation;
- Developing environmental standards;
- Land use planning and soil resources use;
- Monitoring toxic chemicals in the soil, foods and feed;
- Effluent discharges and control;
- Subsidies and who pays for environmental damage in developing countries?
- Regulations, standards and licenses;
- Monitoring difficulties in developing countries;
- Criteria for ambient standards and applications;
- Sources and impacts industrial pollutants on the air, water, land and seas.

Evaluation of available trained manpower in the area of environmental standards in Africa could be a class or an institution project during the academic year.

(iii) Drought, Desertification and their Social, Economic and Environmental Implications

(a) Objectives:

19. bjectives are:

- To improve and develop a general public awareness in Africa concerning the causes and processes of drought and desertification;
- To promote the development of national management plans for arid and semi-arid land ecosystems for sustained productivity;
- To promote efforts at the national level aimed at strengthening national capabilities to combat drought and desertification;
- To promote public participation in the management of arid and semi-arid land resources and anti-desertification programmes.

(b) Scope of syllabus:

20. Some of the issues and conceptual problems relating to drought and desertification which should be addressed in this unit are: the need for national drought planning; are there available in Africa at this present time sufficient data for the analysis and warning of drought and desertification? What are the causes and processes of drought and desertification? How does one define drought and desertification? and what are the social, political and economic

affects of drought and desertification? To acquire the general information and some skills within this sector, the following syllabus is being proposed. Therefore, at the end of the training period, the participants (students) should be able to understand and explain these listed subjects:

- Overgrazing and ecological carrying capacity of the land;
- Water resources management;
- Drought control;
- Desertification control;
- Impact and trends of desertification at the African regional level;
- Activities of existing United Nations Non-governmental Organizations (NGOs) dealing with drought and desertification issues;
- Deforestation;
- The problem of fire wood, and use of energy rescurces;
- The principles of mapping and remote sensing to predict ecological changes and for monitoring resources use;
- Define meteorological drought;
- Define desertification;
- List some of the social political and impacts of drought and desertification in Africa.

21. To enhance the awareness and to raise consciousness among those who normally attend training programmes of ECA-sponsored institutions, this unit can adequately provide a general background and information relating to drought, desertification and their social, economic and environmental implications.

(c) Duration of course

22. The drought and desertification unit is basically a technical unit for which, at this time, adequate data and information are not easily available. Therefore, a two-three week lecture course during each training cycle will be appropriate to develop the consciousness necessart to take this area of combating drought and desertification into consideration in development planning.

23. The participants should also be exposed to the basic content of UNECA Scientific Round Table on the Climate Situation and Drought in Africa, Addis Ababa, 20-23 February 1984, entitled Draft Regional Plan of Action to combat the Impacts of Drought in Africa - E/ECA/SDEHSD/ENV/STR/84/wp.3/Rev.

(iv) Environmental Health and Sanitation

(a) Objectives

24. The general objectives of this unit are:

- To develop an awareness by providing knowledge concerning the possible health risks resulting from exposure to environmental agents relating to occupational safety;

- To promote application by national authorities of effective legal, regulatory and technical measures for the management of pollutants and contaminants, including improvements in food control systems and the management of hazardous wastes;

- To understand the basis for the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations; the prevention of workers diseases caused by their working conditions; the protection of workers in their employment from risk resulting from factors adverse to health.

25. The World Health Organization (WHO) and the International Labour Organization (ILO) have been actively concerned with environmental factors and their effects on human health especially for workers. WHO's concern is largely based on the simple fact that poor sanitary conditions and the accompanying communicable diseases are the greatest causes of morbidity and mortality in developing countries. While the ILO is concerned with the disease which are occupationally related. This section is therefore, intended to expose the participants and students later on to the general principles of community health and occupational safety guidelines.

(b) Scope of the syllabus.

26. For this purpose, the following possible syllabus is being proposed, so that at the end of the training period, the participants should be able to describe and explain:

- Health concerns in factors for occupational safety;

- Safety of agricultural chemicals - excess fertilisers, pesticides, insecticides;

- Occupational health and waste desposal in specific industries: cement, pulp and paper, asbestos and so on, dairy, coffee, cotton, iron and steal, leather tanning;

- Large dams and irrigation schemes and water-borne communicable diseases;

- Principles of pollution control;

- Guidelines on risk management and accident prevention in the chemical industry;

- Environmental guidelines for engine emission and motor vehicle pollution;

- The principles of epidemiology in community health;

- Environmental guidelines for siting of industrial projects;

- Food standards and contamination by biological, chemical, radiation agents;

- Noise pollution: physiological and pathological effects;

- Communicable diseases;

- Occupational exposure;

- Sanitation technology for community water supply, excreta and waste water disposal, disposal of solid waste and for vector control.

(c) Duration of course:

27. To develop awareness regarding community health and occupational safety, as an issue of environmental concern, two to three week lectures course on this subject would expose the participants and students to the major issues in this section.

III. ENVIRONMENTAL EDUCATION AND TRAINING CURRICULUM FOR A SECTORAL APPROACH

28. This section of the introductory curriculum provides a profile of each of the ECA-sponsored institutions with their training programmes and suggests what areas of environmental concerns each institution should emphasized.

(i) Building Environmental Awareness

29. UNEP observes[4/] a) that the success of environmental policies depends, to a large extent, on the participation of informed and responsible citizens at every level and on their understanding and perceptions of the relationship between man and his environment. The public understanding of environmental issues must be kept up-to-date, and broadened, using traditional and contemporary mass media of communication; b) training of professionals whose activities will bear directly on the protection of the environment. Few professionals can claim to be specialists in all disciplines that have to be marshalled for solving most environmental problems, therefore these professionals must be provided with means of rapid access to scientific, technical, legal or other information and data which they require.

30. This curriculum is designed to develop environmental awareness through environmental education and training, utilizing existing ECA-sponsored institutions as a delivery system.

31. The final report of the Tbilisi Conference states that:[5/] "Environmental education should not be just one more subject added to existing programmes but should be incorporated into programmes intended for all learners, whatever their age, this task requires the application of new concepts, new methods and new techniques as part of an overall effort strengthening the social role of educational institutions and the establishment of new relationship between all those engaged together in the education process."

32. The objectives of environment education as it concerns the teaching of individuals were well stated at the Belgrade Charter as it was observed in the following:[6/]

- Awareness: To keep individuals and social groups acquire an awareness of and sensitivity to the total environment and its allied problems;

- Knowledge: To help individuals and social groups acquire basic understanding of the total environment, its associated problems and humanity's critically responsible presence and role in it;

- Attitude: To help individuals and social groups acquire social values, strong feelings of concern for the environment and the motivation for actively participating in its protection and improvement;

- Skills: To help individuals and social groups acquire the skills for solving environmental problems;

4/ UNEP system-wide medium-term environment programme - report of the Executive Director - UNEP/GC/10/7, 25 March 1982.

5/ Environmental education in the light of the Tbilisi Conference - UNESCO.

6/ The Belgrade Charter: A Global Framework for Environmental Education at International Environmental Education Workshop, Belgrade, 13-22 October 1975.

- Evaluation ability: To help individuals and social groups to evaluate the environment in terms of ecological, political, economic, social, aesthetic and educational factors.

(ii) Strategies to Incorporate Environmental Dimension

33. Methods - Teaching strategies ought to adopt a holistic approach and encompass the various ecological, social, cultural and economic aspects of the environment; in other words, they should be interdisciplinary. To achieve this foal, various solutions may be envisaged, but there is some difficulty in describing the teaching methods used in environmental education. This is a problem because at present there is no standardized system of classifying the existing methods. In some cases, there are as many methods as there are individual teachers. The following is a list of instructional methods irrespective of lesson content: 7/

- Active vs Passive;
- Descriptive vs analytical;
- Information vs experimental;
- One-way vs two-way communication; and
- Survey vs selected in-depth coverage.

34. In respect to the passive, the teacher lectures to the participants or pupils about the environmental issues involved without the pupils' or participants direct involvement, whereas the active method encourages the participants to get involved in experiment as part of the learning process. Concerning the descriptive vs analytical method, the descriptive method stresses the learning of the definitions of relevant terminology and describes what the participants observed on field trip, whereas the analytical method encourages the participants to follow up the descriptive coverage by working with a series of "why type" questions on the subject matter under discussion, for example, why does each rain drop contain a dust particle? etc. On the other land, the informational vs experimental method takes a different approach. Regarding the informational, the participants watch film, listen to a tape or read a text and then write a composition describing some aspects of the environmental issue being discussed. The experimental approach encourages the participants to face the effect of pollution or the impact of environmental mismanagement in the field.

35. Depending on the teacher or the instructor and the resources available, the passive and descriptive methods of instruction are the least appropriate for environmental training of mature participants.

7/ Trends in Environmental Education, UNESCO.

IV. PROFILES OF ECA-SPONSORED PARTICIPATING INSTITUTIONS

(i) The African Centre for Applied Research and Training in Social Development (ACARTSOD)

(a) Introduction

36. The African Centre for Applied Research and Training in Social Development (ACARTSOD) is an inter-governmental institution established under the joint auspices of the United Nations Economic Commission for Africa (ECA) and the Organization of African Unity (OAU). ACARTSOD is one of the centres which has been established in response to ECOSOC resolution 1401 (XLVI) of 1969 which urged member States to explore the possibility of establishing regional social research and training centres for social welfare and development.

37. In January 1977, the Second Conference of African Ministers of Social Affairs meeting in Alexandria, Egypt, passed the resolution establishing the ACARTSOD. This resolution was subsequently endorsed in June of that year by the Conference of Ministers of the Economic Commission for Africa, and by the Fourteenth Session of the Assembly of Heads of State and Government of the Organization of African Unity. In February 1978, the Thirtieth Session of the Council of Ministers of the Organization of African Unity decided that the ACARTSOD should be located in Tripoli, capital of the Socialist People's Libyan Arab Jamahiriya.

38. The African Centre for Applied Research and Training in Social Development assumes primary responsibility in Africa to promote and co-ordinate applied research and training activities in the field of social planning and development at the regional and sub-regional levels, and to help evolve and implement new approaches and priorities. ACARTSOD provides training for high-level and middle-level personnel, organizes training courses and seminars, undertakes applied research for the production of indigenous teaching and reference materials, undertakes research aimed at promoting rural development programmes, provides assistance to national universities and social work institutions in the field of training, and initiates and maintains relations with other centres, institutions and organizations with similar objectives in Africa and in other parts of the world.

39. ACARTSOD is expected to derive its financial support from the African member States, 25 of which have to date signed the membership agreement: Algeria, Angola, Benin, Burundi, the Central African Republic, Egypt, Equatorial Guinea, Ethiopia, the Gambia, Ghana, Guinea, Kenya, Liberia, the Libyan Arab Jamahiriya, Mali, Morocco, Niger, Senegal, Sierra Leone, Sudan, Togo, Uganda, United Republic of Cameroon, Burkina Faso and Zaire. The Libyan Arab Jamahiriya as the host country, contributed 50% of the Administrative budget of the Centre for the first two years of the Centre's existance in addition to providing the physical facilities to house the Centre and its staff.

40. The organization of African Unity has pledged an annual subvention of $100,000 to the Centre; and the Economic Commission for Africa and the UNDP in Tripoli assist with administrative support.

41. At present, the Centre has a staff of seventeen with an additional two under recruitment. The senior officials are: Executive Director, a.i.; Mr. Ako Sewa Emmanuel, Co-ordinator for Training; Mr. Eshete Tessema, Finance and Administrative Officer; Mr. Moussa Georges Mbodge, Consultant; Mrs. Lamis Gabsi, Librarian; Miss Aida Guerma, Computer Programmer; Mr. Abdurezak Ali El Zawi, Liaison Officer and Miss Sonia Krips, Administrative Assistant.

42. The Centre is in the process of establishing a research library and an African Social Information System. It has a computer for its research and publications programme, library cataloguing and reference systems, accounting and other administrative tasks. It has up-to-date office equipment, as well as cinema projection facilities, and published a number of books and document which include, to date,

1. After Lagos What? by Prof. Adebayo Adedeji;
2. Social Implications of the Lagos Plan of Action;
3. Directory of Social Development Research and Training Institutions in Africa;
4. Social Planning and Administration in Africa;
5. ACARTSOD Newsletter.

43. The Centre has at its Headquarters premises, a limited number of residential accommodation for its staff, an Auditorium with a seating capacity of over 500, a Conference Room which also serves the social needs of its staff and the community, and a number of committee rooms. Renovations to existing facilities will enable the Centre to accommodate up to 25 participants or students from other countries to the Centre's Training Courses to be organized in Tripoli.

44. In 1980, the Centre organized an inter-governmental Expert Group meeting which prepared for the Third Conference of African Ministers of Social Affairs and adopted a five-year indicative plan for the Centre. Since then the work programme has included along with the current programme : establishment of a Reference Library and Clearing-House (on-going), Survey of Social Development Research and Training Institutions in Africa (on-going), Evaluation of Social Development Strategies in Africa in light of the Lagos Plan of Action (1983/84), national training programmes in the Jamahiriya and Benin, and a subregional training course in Cameroon (1983/84) a Workshop on the Mass Media and African Society (1983), and the Workshop on Social Aspects of the Industrial Development Decade for Africa (October 1984) in co-operation with ECA, OAU and UNIDO. The Centre publishes a General Series, Research Series and Training Series of publications, a Newsletter, a Co-operative Abstracting Service, and the results of seminars, workshops and research. It is establishing a Social Data Bank in co-operation with PADIS in Addis Ababa.

45. The objectives, strategies, and principles on which ACARTSOD training programmes are based, are mainly derived from: resolutions made by the concerned African Ministers of Social Affairs during their various conferences, the urgent needs of the African peoples, and the development strategies adopted by the African governments.

- Long term objectives:

  - To help African states by training high-level personnel in social development within the context of the African experience,

  - To offer fora for the key-persons in social development, through the organization of seminars and other sorts of training programmes;

  - To provide training materials in social development;

  - To assist universities and institutions engaged in social development, by helping them in building an advanced and structured training programmes in line with the African societies needs.

- Middle and short term objectives

  - To offer courses, seminars, and workshops on the socio-economic development problems in conformity with the political development issues, and the occuring social changes;

  - To offer training programmes of a wide inter-disciplinary nature to help participants to acquire a better understanding of the socio-economic development process mechanism;

  - To offer short-term training programmes to help African government in case of urgent need for training in social development;

  - To offer training programmes which enable participants to acquire practical experience in the new re-established professional techniques of social development;

  - To provide access to ACARTSOD research findings, through courses, workshops, and seminars;

  - To obtain high level teachers and instructors in social work;

  - To train at an advanced level, social administrators to master the different aspects of social development study programmes such as social planning, and social development in the areas of health, nutrition, agriculture, labour administration and rural development etc.

  - To organize training courses, seminars, and workshops at the regional, sub-regional, and the national levels, some specific issues of social development, and rural development;

  - To organize training courses for social workers of middle and Front-Line levels, in order to enable them to improve their knowledge, their work-methods, and their techniques of their practical experience in social work, and at the community development level.

- Specific Training areas

  - Social and political strategies and development:

    - Development theories;
    - Social theories;
    - The impact of politics and strategies on the African social life;
    - Social issues and development plans;
    - Macro-economics and micro-economics, and their social implications, etc.

- Organization, planning, and administration of social development

  - Organization and planning of social services;
  - Assessment, management and control of the social sector personnel;
  - Social planning) problems and implications
  - Special planning)

- Participants: (Recipients of training programmes)

  - Social workers of all levels : high, middle, and inferior;
  - Profe-sionals and para-professionals of social work, volunteers, local leaders including women and youngsters;
  - Social administrators, planners, and decision-makers;
  - Training of trainers.

- Training level and duration:

  - National level: One to four weeks;
  - Sub-regional level: one to two weeks;
  - Regional level: One to two weeks;
  - Higher level training for specialization: One year.

- Work resources:

  - Reliance on facilities offered by the member States, and on the means and services offered by the African Universities and institutions;

  - Multiple-objective training plans centred upon the multi-disciplinary programmes and specific problems to be solved;

  - Frequent evaluation of training workers and training programmes.

(b) Number of persons trained since 1983

46. In 1983, a total of 68 persons were trained by the Centre, as compared to 47 persons in 1984. During this two years period, 1983-1984, a total of 115 persons were trained. Of the total number of persons trained twenty-one of the participants were female, whereas, ninety-four were male. Eighty-four of the participants came from West Africa and thirty-one persons came from North Africa.

(c) Environmental considerations to be incorporated into training courses in ACARTSOD

47. Based on the objectives of the Centre and its general profile, its emphasis of environmental training should be placed on the (a) Inter-disciplinary Environment Management for Development Syllabus (page 6); and (b) On the Drought, Desertification and their Social, Economic and Environmental Implications Unit, the other two units - Environmental Assessment and Standardization, and the unit on Environment, Health and Sanitation could be incorporated and emphasized at some time in the future depending on the Centre's financial and human resources.

(ii) The African Institute for Economic Development and Planning (IDEP) Dakar

(a) Introduction

48. The Institute (IDEP) was established in March 1962, under resolution 58 (IV) of the Council of Ministers of the ECA. IDEP is a bilingual, Pan-African Institute.

49. There are three major interrelated activities: training, research and consultancy services. IDEP from time to time organized conferences, seminars and workshops and the proceedings from these are published and disseminated throughout Africa.

50. According to its mandate, the primary purpose of IDEP is the training of specialist and senior officials of institutions and governmental ministries in Africa responsible for economic development and planning. The orientation of the training programme is tailored to suit African conditions and satisfy the need of African policy designs.

51. The training programme cycle has a duration of two academic years and has three interrelated components leading to an M.A. degree in Economic Development and Planning.

52. The following are the components of the cycle:

- the nine-month basic programme in development and planning;
- the three month specialization programmes:
  1) industrialization in Africa;
  2) energy and development in Africa;
  3) human resources development and manpower planning in Africa;
  4) agriculture and rural development in Africa.
- the six-month research training programme.

(b) Number of persons trained from 1981

53. In 1981, a total of sixty-nine (69) persons were trained at the Centre. In 1982, the number of participants were seventy-two (72) as compared with fifty-two in 1983. Over the three years period (1981-1983) a total of one hundred and ninety-three (93) participants were trained at IDEP.

54. Of the total number of persons trained at the Centre, the majority come from West Africa followed by Eastern Africa.

55. Presently, IDEP has a total of ten (10) professional staff including its Executive Director.

(c) Environmental consideration to be emphasized at IDEP

56. Because IDEP emphasizes Economic Development and the Planning Sectors, this Curriculum recommends that for the time being its environmental training component should stress the (a) Environmental Management for Development Syllabus; (b) the Environmental Assessment and Standardization; and (c) the Environment, Health and Sanitation Syllabus.

57. Therefore, during its training cycle, the participants should be exposed to at least 3-5 hours lectures per week on each of the suggested subjects.

(iii) African Regional Centre for Technology (ARCT), Dakar

58. Establishment of the African Regional Centre for Technology was approved at a meeting of African plenipotentiaries held in Kaduna, Nigeria, in November 1977, and the Centre came into being in January 1980, under the joint auspices of the United Nations Economic Commission for Africa (ECA) and the Organization of African Unity (OAU). At the time, its member States numbered 28 (Algeria, Benin, Burundi, Cameroon, Cape Verde, Egypt, Equatorial Guinea, Ethiopia, Ghana, Guinea, Kenya, Liberia, Mauritania, Mauritius, Morocco, Mozambique, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, Sudan, Tanzania, Togo, Uganda, Zaire and Zambia).

(a) Centre's objectives

59. The Centre's constitution sets ten objectives, which may be cited here in extenso. They are to:

- Contribute to the development and use of technology within (the Centre's member States;
- Stimulate the awareness of technological development in member States;
- Strengthen the technological capability of its member States;
- Promote the use of such technology as is suitable for the development objectives of its member States;
- Assist within its member States in the formulation of technology policies as an integral part of planned scientific, technological and socio-economic development;
- Encourage research and training in the methodologies of technology planning;
- Improve for the benefit of its member States, the terms and conditions under which technology is imported;
- Promote within its member States the diffusion and dissemination of technology and also the collection and envouragement of the use of technological information;

- Promote co-operation among countries of the African region particularly among its member States; and

- Assess the social implications of the development, transfer and adaptation of technology and promote the understanding of such implications.

For the purpose of carrying out its functions, the centre has:

- Office of the Executive Director
- Administrative Division
- Information and Documentation Division

(b) Environmental consideration for ARCT

60. Based on the existing resources at this Centre and its sectoral concerns, a basic general overview of lecture centred around the interdisciplinary environmental syllabus would be appropriate at this tine.

61. Lectures of 1-3 hours duration during each training cycle would expose the participants to the several concerns of environmental management.

(iv) The African Development Bank (ADB)

(a) Introduction

62. The African Development Bank located in the Ivory Coast, Abidjan, was established in 1964. Its training Centre was opened in 1978. The Bank has about four hundred professional staff employed full time. Of the total staff about six professionals are full time trainers.

(b) Training programmes at ADB

63. Seminars and workshop are organized year-round from January to December. The classes are usually held for forty-eight African countries' national banks and other financial institutions staff.

64. The Bank training programmes emphasized, agriculture, infrastructure, industry and development finance. At such, the following subjects and are conducted for member countries yearly:

- Development Banking Seminar;
- Agricultural Management Training Programme for African Senior Project Staff,
- Agricultural Management Training Programme for African Training of National Trainers;
- Project Appraisal and Loan Administration;
- Workshop on Road Maintenance;
- Workshop on the Effective use of Food Aid for Development;
- Seminar on Chief Executive of Development Bank;
- Agricultural Policy Seminar;
- Financing of Telecommunications;
- Seminar on Project Cycle and Development.

(c) Suggested environmental considerations for ADB

65. Because of the nature of the Bank activities, environmental management awareness and its role in development projects, environmental concerns are being taken seriously at the bank at this time. In this regard, the Bank could incorporate all four suggested training units into all the present training areas of the Bank, namely:

- Environmental Management for Development;
- Environmental Assessment and Standardization;
- Drought, Desertification and their Social, Economic;and Environmental Implications; and
- Environment and Human Health.

66. In addition, a strong emphasis should be placed on the subject area of "the principles of Environmental Input Assessment procedure (EIA) in the training component of the Bank's seminar for Chief Executive of Development Banks, and within the project appraisal section.

67. Because of the Bank's long experience in training, the duration or time to be devoted to each subject area could be discussed and agreed upon at the workshop.

(v) African Regional Centre for Engineering Design and Manufacturing (ARCEDEM)

(a) Introduction

68. The African Regional Centre for Engineering Design and manufacturing (ARCEDEM) was formally established in 1979 but became operational in 1982. The Centre is located in Ibadan, Nigeria.

69. As of January 1984, twenty-three countries have acceded to the constitutions of the Centre.

70. The idea of creating a regional institution to promote the development of machine design capabilities within African countries was discussed at the Conference of Ministers of Industry held in December 1975.8/

71. As a result of Resolution 1 (IV) of the Fourth Conference of African Ministers of Industry Haduna, November 23-25, 1977, vide ECA Document E/CN./14/689 and E/CN./14/Inr/221 Page 15 of the Report of the Social Conference, ARCEDEM was established.9/

(b) Objectives of the Centre

72. The objectives of the Centre are:

- Adaptation of foreign designs of machinery and other industrial equipment;
- Development of indigenous designs of selected machines and equipment;
- Development of prototypes of machines and equipment designed or adapted;

8/ African Regional Centre for Engineering Design and Manufacturing (sponsored by United Nations Economic Commission for Africa). Brief submitted to Ad-hoc Committee to evaluate multinational institutions established under aegis of ECA and OAU, 2 Oct. 1984.
9/ Ibid.

- Manufacture of machines and equipment in small batch quantities as prototypes;
- Training of Engineers and technicians in the field of design and development of engineering equipment;
- Co-operation with existing national institutes involved with design and manufacturing of machine and equipment;
- Assistance to member States in promotion of enterpreneurship;
- Assistance to member States to promote National Centres of design and manufacturing;
- Assistance to member States in establishment and upgradation of engineering workshops for production of machine parts;
- Dissemination of information and expertise in member States.10/

73. In addition to these objectives, the functions of the Centre as established are:

- To assist on request from Government of the member States in creation of national centres for engineering design and manufacturing;
- To assist the member States, at their request, or on its own initiative:

  a) in the adaptation of machinery and equipment imported into their territories;

  b) in the development of machines and equipment based on indigenous design; and

  c) to undertake the design and manufacture of equipment, machines and tools, especially selected for the particular member States.

- To provide, on request, technical assistance to national workshops;
- To assist the member States to promote national capability for engineering design and manufacturing;
- To provide effective assistance to the member States in the further training of engineers and technicians for the design and development of machinery and equipment;
- To co-operate with existing national institutions which are working in the field of engineering design and manufacturing; and
- To organize an information service on the activities of the Centre and in the fields in which the Centre is engaged.

(c) Training activities

74. The Centre conducts three training courses per year. The courses starts either in July or August each year.

75. The Centre has to train at least three hundred trainees per year starting from 1987.

76. In 1982, seven participants were trained, in 1983 fifteen persons and in 1984, sixteen persons were trained at the Centre. Since its establishment a total of thirty-eight persons have been trained. Basically, most of the participants have come

10/ Ibid.

from West Africa with few coming from northern and eastern Africa.

(d) Environmental consideration for (ARCEDEM)

77. For the time being and for its objectives and sectoral interest, ARCEDEM could incorporate the unit relating to the interdisciplinary environment management syllabus.

78. Lectures should centre around the general principles and concepts of each of the suggested subject areas.

79. The duration in terms of time will depend on the manpower and financial resources available. A 2-4 hours lecture relating to the units is being proposed.

(vi) Regional Centre for Training in Aerial Surveys (RECTAS) Ile-Ife, Nigeria

(a) Introduction

80. The concept of the Centre and its establishment date back to the United Nations Cartographic Conference for Africa held in 1963 in Nairobi, Kenya.

81. At that meeting a resolution was adopted expressing the need to establish such a Centre in Africa. The concept was subsequently endorsed by Resolution 164 (VIII) of the Eight Session of UNECA Conference of Ministers.11/

82. The Centre was formally opened on 21 October 1972 with the Governments of Benin, Ghana, Nigeria and Senegal becoming the founding member States. Presently, Burkina Faso, Cameroon, Mali and Niger have joined as members. The Centre has a total membership of eight countries.

83. The geographical area to which the membership and training activities may extend includes all of Africa.

84. The objectives of the Centre are:

- The provision of theoretical and practical training in the field of aerial surveys, including photogrammetry, photo-interpretation and airborne geophysical surveys, with a view to meeting the manpower requirements of African Countries in the stipulated fields;

- The conduct of seminars and workshops with a view to providing opportunity for exchange of information, experiences and development of skills;

- The conduct of research and studies in the field of aerial surveys with particular reference to the peculiarities of the African environment and needs,

- The provision of advisory services on aerial survey problems to the Governments of member States of the Economic Commission for Africa and their Agencies.

11/ Ibid.

(b) Training activities

85. The Centre presently conducts two courses which are strongly related to environmental matters. Photo-interpretation and remote sensing can be used as environmental management tool for monitoring climatic changes. Basically, the Centre emphasized the natural resources sector.

86. To enroll in the Centre a participant should have acquired the school certificate with passes in mathematic and physics, chemistry and geography.

87. Since its establishment and operational (RCTAS) trained thirty-five participants in 1983 and fifty-three in 1984. The planned target for 1985 is sixty persons.

88. Basically, the student population come from the Civil Service system, technicians and scientists.

(c) Environmental areas to be incorporated into the training activities (RC + AS)

89. The unit of the curriculum relating to (a) drought, desertification and their social, economic and environmental implications should be emphasized as top priority for the Centre. In addition the Unit (b) on environmental management is being suggested as the starting point in order to give the participants a general overview of the problems of the environment.

90. At least a 1-2 week lectures on each unit during each training cycle is being suggested.

(vii) African Regional Organization for Standardization (ARSO) Nairobi, Kenya

(a) Introduction

91. Following an extended preparatory work, the African Regional Organization for Standardization (ARSO) was established at a founding Conference held in Accra, Ghana, January 1977. The Secretariat was mobilized in 1979 after the conclusion of ARSO Headquarters Agreement with the Government of the Republic of Kenya in June 1981. The Centre become fully operational in early 1982. 12/

92. As of August 1983, the number of member States of ARSO was twenty-three African countries.

12/ African Regional Organization for Standardization (ARSO) ARSO/SEC/CERI/4.1/Rev.2, 1 October 1984.

(b) Objectives of the Centre

93. The objectives of ARSO are:13/

- To promote standardization, quality control, certification and metrology activities in Africa;
- To elaborate regional standards for Africa with particular references to products which are of interest to Africa;
- To promote social, industrial and economic development and provide consumer protection and human safety by advocating and establishing activities concerning standardization in Africa; and
- To promote the harmonization of the views of its member States and their contribution and participation at the international level in the field of standardization.

94. The Lagos Plan of Action for the Economic Development of Africa has inter-alia entrusted ARSO with the following specific activities:14/

a) Promotion of standardization activities in the region by:

- assisting African countries in the initiation and establishment of standardization, quality control, certification and metrology activities at the national level;
- Expanding membership of ARSO to include all African countries so as to enable them participate in the technical work of the organization as well as benefit from its programme of activities;

b) Formulation and issuance of African Regional Standards with particular reference to :

- products of interest to intra-African trade;
- development of intermediate, capital and consumer goods industry;
- integration of transport and communication infrastructures in the region; and

(c) Training activities

95. The training programme of ARSO includes:

- Principles and benefits of standardization and related activities;
- Organization and techniques for operating a national standard body;

13/ Ibid.
14/ Ibid.

- Formulation of standards,
- Quality of control;
- Certification marking and implementation of standards;
- Metrology;
- Laboratory;
- Standards information services.

96. These training activities are conducted through seminars, workshops and in plant group training arrangements.

97. ARSO has a total of four professional staff employed full time.

98. The Centre's classes are held for a duration of one to two weeks. ARSO intends to incorporate environmental education into two of its training areas within the development of standards and the implementation of standards classes.

99. Since its establishment, ARSO has trained a total fifty-seven participants. Majority of the people trained so far have come from southern Africa followed by West Africa. The age distribution of past participants is between twenty-five to thirty-five year of age.

(d) Environmental area to be incorporated into ARSO

100. Depending on the resources and manpower available to this centre, the top priority of emphasis of training of ARSO for this purpose should be on Unit II of the curriculum, regarding Environmental Assessment and Standardization and the unit dealing with environmental management would be appropriate to expose the participant to a general concept, problems and the existing issues of environmental management in Africa.

101. A period of 1-2 week lecture on the subjects within the unit during each training cycle is recommended for the environmental assessment and standardization. Regarding the environmental management unit, a one-week lecture of 2-4 hours each is being proposed.

(viii) Regional Centre for Services in Surveying, Mapping and Remote Sensing (RCSSMRS), Nairobi, Kenya

(a) Introduction

102. On the initiative of the United Nations Economic Commission for Africa (UNECA) and at the invitation of the Government of Kenya, a meeting was convened in Nairobi, 16-20 September 1974 to discuss and agree on the action to be taken in order to establish at least one Regional Centre for services in surveying, mapping and remote sensing. By March 1975 agreement was reached to locate the Centre in Nairobi, Kenya. Five member African countries during the same period signed the agreements to establish the centre. The five member countries were: Kenya, Uganda, Tanzania, Malawi and Somalia. 15/

15/ Regional Centre for Services in Surveying, Mapping and Remote Sensing, P.O. Box 18118.

(b) Training programmes

103. The classes of the Centre are designed to give a theoretical and practical introduction to remote sensing by satelite. The courses are discipline-oriented and are formulated by the following format:

- First participants to through an intensive classroom theoretical instruction and exercises for three weeks;
- On the second format, participants spend three weeks at the Centre, being introduced to satellite remote sensing and at the same time developing a project in consultation with a consultant staff;
- Thirdly, the Centre offers on-the-job training either in photographic laboratory or in the image analyses and interpretation. 16/

104. The following are some of the classes conducted by the Centre:

- Regional training course in remote sensing - the purpose of this course is to assist in improving food production;
- Regional remote sensing facility - natural resources extended training;
- Workshop on geological interpretation of remotely sensed data;
- Teaching with remotely sensed data;
- Application of remote sensing to forestry.

105. Usually, each training course has an enrollement of twenty to thirty (20-30) participants. In 1981, one hundred and forty-nine persons were trained: in 1982, one hundred and sixty-six participants were trained; and one hundred and eighty-nine persons were trained in 1983.

(c) Environmental areas to be incorporated

106. The sectoral area of this Centre relates to that of RECTAS in Ile Ife, Nigeria. Therefore, the two units relating to (a) Drought, Desertification and their social, economic and environmental implications and (b) the inter-disciplinary environmental management syllabus are being proposed.

107. The first priority should be placed on the drought and desertification unit to be followed by the environmental management unit.

108. A 1-2 week lecture on each unit for the duration of each training cycle is being recommended.

16/ Ibid.

(ix) African Institute for Higher Technical Training and Research (AIHTTR) Nairobi, Kenya

109. The AIHTTR is an institute of inter-governmental post-secondary Higher Technical Training and Research established in 1979 by African Government for the training of middle and higher level technical manpower and the further training of experienced engineers.

110. The Centre is also concerned with research in technical education development as well as with research in the adaptation and development of technology for social and economic development.

111. The institute was established in accordance with specific mandates of the Conference of Ministers of the Economic Commission for Africa (UNECA). Resolutions 306 (XIII) on "co-operation in manpower development and utilization" and Resolution 318 (XIII) on "training for development" adopted May 1977, in Kinshasa, urged African States to make maximum use of the training and research facilities of existing African technical colleges.

(a) Training activities

112. The following are the main training areas of the Institute:

- Agricultural engineering, food and drugs technology;
- Technical teacher/educator instructors training;
- Electromechanical engineering;
- Interdisciplinary industrial production;
- Environmental and infrustructural studies; and
- Chemical and non-metaliferrous technologies.

113. Presently, the Institute has a total of three professional staff employed full-time.

114. For the period 1981 through 1983, the institute trained a total of two hundred and thirty persons. The majority of the participants trained during this period came from eastern and West Africa. Basically, the occupational distribution of past enrollement are: technician, scientists from the civil service system of the various member countries.

(b) Environmental areas to be incorporated

115. The areas of emphasis that should be incorporated into the existing training activities of AIHTTR are the following units of the core curriculum.

- the unit on Environment and Human Health (page 10)
- inter-disciplinary environmental management syllabus (page 6)

116. Depending on the Centre's existing financial and human resources, the Centre should incorporate into its training activities the syllabus on environment and human health as a priority.

117. A lecture period of 1-2 weeks concentrating on the environment and human health would expose each participant to the general concepts in the unit. For the unit on environmental management, a lecture time of one week of 1-3 hours per day would develop the environmental management.

(x) Institute de formation et de recherche demographiques (IFORD)
Yaounde, Cameroon

(a) Introduction

118. The Institut de formation et de recherche demographiques (IFORD) was established in Yaounde in 1971 to serve French-speaking African countries. Jointly financed by the Government of the United Republic of Cameroon and the United Nations, IFORD has provided training for nationals from several French-speaking African countries. A resolution adopted by the ECA Conference of Ministers in 1980 led to the conversion of IFORD into a subsidiary body of the Commission with membership extending to Algeria, Benin, Burundi, the Central African Republic, Chad, the Comoros, the Congo, Djibouti, Gabon, Guinea, the Ivory Coast, Madagascar, Mali, Mauritania, Mauritius, Morocco, the Niger, Senegal, Seychelles, Togo, Tunisia, the United Republic of Cameroon, the Upper Volta and Zaire.

119. The main objectives of IFORD are to provide training courses in population and related fields to persons from French-speaking countries of Africa, to undertake research on all aspects of population and related fields and to provide advisory services at the request of the Governments of the countries served by it.

120. For the purpose of implementing its objectives, IFORD offers a two-year course leading to a Master's degree in demography. In addition to this course, IFORD organizes 12-month courses whereby young demographers participate in the work of the research department of IFORD and conduct individual research work under the supervision of more experienced demographers. In the recent past, IFORD has organized two meetings, one of African experts on population policies in Africa held at Lome, Togo, in 1979 in collaboration with RIPS and with technical support from the United Nations Population Division and the other for more than a hundred demographers. IFORD has two publications, "Demography Liaison Bulletin" which is published regularly and "IFORD Annuals".

121. Since its establishment, a total of 104 demographers have graduated from IFORD. They came from only 17 of the 25 countries served by IFORD.

(b) Environmental areas to be incorporated

122. Depending on its resources both financial and manpower, the unit on drought, desertification and their social, economic and environmental implications should be emphasized as a priority unit, to be followed by the unit on environmental management for development.

123. For the drought and desertification unit, an institutional period of 1-2 week comprising of 2-3 hours per day would give sufficient exposure to the participants to develop a sense of appreciation of the subject matter.